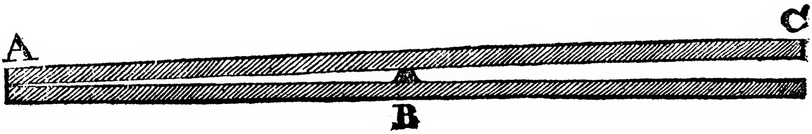

III. *An Account of an Experiment touching the Direction of a Drop of Oil of Oranges, between two Glaſs Planes, towards any ſide of them that is neareſt preſs'd together.* *By Mr.* Fr. Hauksbee, *F.R.S.*

THE Glaſs Planes which I uſed were about 6 Inches ſquare; and being very clean, a drop or two of Oil of Oranges was let fall on the lower Plane, ſuppoſe at B; then the upper Plane was laid on it, ſo near as to touch the Liquid, that it might become Contiguous to both their Surfaces. Thus the Planes being made to touch one another at the ſide A, and opened at the ſide C, as in the Scheme above, the lower Plane lying parallel with the Horizon, the drop of Oil would immediately move towards the touching ſide of the Planes; and when it was arrived there, it was but reverſing the Angle, and the Drop would return from A to C; and after the ſame Manner it might be directed to any ſide or part of the ſame. Moreover, if the Planes were elevated 8 or 10 Degrees at A, yet would the Drop aſcend towards the ſide A, tho' not ſo ſwift as when the Planes were in the fore-mentioned Poſition. It was farther to be obſerved, that the nearer the Drop approach'd the touching ſide, ſo would the Velocity of its Motion be encreaſed: The reaſon of which ſeems



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very plain, allowing the Aſcent of Water in ſmall Tubes, and between the Surfaces of nearly contiguous Planes, to be explain'd from the Power of Attraction, that one Surface has to another at ſuch a nearneſs (as I ſee no Reaſon to doubt it:) For the Drop of Oil moving on towards the contiguous Surfaces, comes to enlarge its ſpace, and touches the Planes in more and more Parts, as it approaches nearer and nearer the touching ſide. Thus in the whole Progreſs of its Motion, it is continually encreaſing in its Surface, and conſequently the Power of Attraction muſt encreaſe in proportion to that Surface; ſo that the Celerity of its Motion muſt neceſſarily be augmented. This Experiment ſeems very powerfully to confirm the Experiments made before on the ſame Subject, from the gradual Increaſe of the Motion of the Drop; repreſenting thereby the ſeveral Appearances of the Aſcent of Water in different ſiz'd Tubes, or between Planes whoſe Surfaces are placed at different diſtances, the ſlower Motion repreſenting thoſe Experiments made in larger, and the ſwifter in ſmaller Tubes; the ſame to be obſerved in different diſtanc'd Planes.

I have ſince repeated the ſame Experiment *in vacuo*, where, in all Reſpects, it anſwered as in the open Air; which is a plain Indication, that the Preſence of the Air has nothing at all to do in producing this *Phænomenon*.

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